

Remarks

Claims 1-11 and 14-20 are pending, and claims 1-11 and 14-20 stand rejected. Claims 1-2, 11, and 14-15 are amended by this response. Claim 4 is cancelled without prejudice by this response. The Applicants respectfully traverse the rejection and request allowance of claims 1-3, 5-11 and 14-20.

§ 102 Claim Rejections

The Examiner rejected claims 1-3, 5, 10, 11, 15, and 20 under 35 U.S.C. § 102 as anticipated by U.S. Patent number 6,018,515 (Sorber). The Applicants amended independent claim 1 and submit that amended claim 1 is novel and non-obvious over Sorber.

Sorber does not teach a memory controller as claimed in claim 1. Claim 1 claims a memory controller having the limitation of: "if occupancy on a first transmit buffer corresponding with a first transmit channel exceeds a threshold, then prioritize the transmit channels to transmit packets from the transmit buffer corresponding with the first transmit channel". Sorber does not teach this limitation.

Sorber teaches a controller (30) that receives messages and determines priority of the messages based on priority bits (column 8, lines 25-30; column 9, lines 32-37). The controller is connected to a memory comprised of plurality of priority buffers (FIG. 5). After determining priority of the messages, the controller routes the messages to the appropriate priority buffer (column 8, lines 25-30; column 9, lines 32-37). The priority buffers then route the messages to the physical link. The priority buffer with the highest priority empties to the physical link first (column 8, lines 35-44). The buffer with the next highest priority empties after the buffer with the highest priority is empty (column 8, lines 35-44). Buffers with lower priority only empty after higher priority buffers are empty (column 8, lines 35-44).

Sorber does not teach a memory controller that prioritizes transmit channels to transmit packets from a transmit buffer having occupancy that exceeds a threshold as described in claim 1. Sorber does not dynamically prioritize the transmission of messages out of the priority buffers. The priority buffers in Sorber empty according to priority; the highest priority buffer empties, then the next priority buffer empties, etc. Sorber does not teach dynamically changing how the priority buffers empty. In particular, Sorber does not teach dynamically changing how

the priority buffers empty based on congestion in a network. To handle congestion in Sorber, the controller sends a congestion message when one of the priority buffers (or the re-transmit buffer) is full (column 9, lines 4-15 and lines 60-67). Based on the congestion message, the Layer 3 device stops sending messages (column 9, lines 4-15). When the congestion is over, the controller sends a resume message (column 9, lines 22-28; column 10, lines 9-11). However, Sorber does not change how the priority buffers are emptied to help handle congestion problems.

The memory controller in claim 1 can dynamically change the priority of emptying the buffers. The memory controller in claim 1 may advantageously help prevent over-run of the buffers and loss of packets.

Based on the above remarks, the Applicants submit that claim 1 is novel and non-obvious in view of Sorber. The same argument applies to claims 2-3, 5, 10, 11, 15, and 20.

§ 103 Claim Rejections

The Examiner rejected claims 4 and 14 under 35 U.S.C. § 103 in view of Sorber in further view of U.S. Patent number 6,304,578 (Fluss). Claim 4 has been cancelled. Claim 14 is dependent on claim 11, and is therefore novel and non-obvious for the reasons provided above.

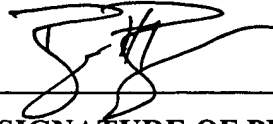
Conclusion

Based on the above remarks, the Applicants submit that independent claims 1 and 11 are allowable. There may be additional reasons in support of patentability, but such reasons are omitted in the interests of brevity. The dependent claims are allowable as being dependent on an allowable independent claim. We respectfully request allowance of claims 1-3, 5-11 and 14-20.

Any fees may be charged to deposit account 502622.

Respectfully submitted,

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